

In the Drawings:

Please substitute Replacement Sheet 8 for original sheet 8,  
each containing Figures 19-21.

Remarks

Claims 1-32 are pending in this application, claims 25-30 which stand allowed and claim 18 of which is objected to as dependent upon a rejected base claim but indicated to be allowable if rewritten in independent form.

Drawing Objections

The drawings are objected to because the lead lines for reference numeral 48 in Figure 19 does not extend to the feature indicated and because the following reference characters are not mentioned in the description: 51A of Figure 19 and 55 of Figures 20 and 21.

Reference numeral 51A and related lead line and reference number 46 and related lead line have been removed from Figure 19 to address these objections (see annotated sheet and compare to replacement sheet).

Applicant notes that the Examiner is incorrect with regard to reference numeral 55 since it is identified in numbered paragraph 47 as "blower interior airflow space".

These changes and remarks are believed to address the objections to the drawings.

Specification

The inadvertent capitalization of "A" in line two of numbered paragraph 48 has been corrected. This is believed to address this objection to the Specification.

Claim Rejections Under 35 U.S.C. Section 112

Claim 1 stands rejected for reciting of a broad recitation "for a motor driven air handling blower" and for a narrower recitation "particularly adapted for HVAC systems". Applicant has amended claim 1 to remove the narrower recitation. This is believed to address the claim rejections under 35 U.S.C. Section 112.

Claim Rejections Under 35 U.S.C. Section 103Rejection of Claims 1-5 and 7-13

Claims 1-5 and 7-13 stand rejected under 35 U.S.C. Section 103(a) in view of the proposed combination of U.S. Patent 4,865,517 to Behler, U.S. Patent 5,474,422 to Sullivan and excerpts from Plastics Engineering, Third Edition by R. J. Crawford. Applicant respectfully traverses these rejections for the following reasons.

Behler discloses a blower with a clam shell housing where the material is consistently described as "plastic" without any further specificity. Applicant agrees with the Examiner that these claims are novel and patentable in view of Behler taken by itself.

Sullivan is directed to a volute housing for a centrifugal fan blower or the like formed of galvanized metal, polymeric/co-polymeric plastic material or a combination thereof. Sullivan, like Behler, makes no disclosures regarding the use of thermoset polymer compositions to form the housing parts. Applicant agrees with the Examiner that these claims are novel and patentable in view of Sullivan taken by itself.

The Plastics Engineering excerpt contrasts the advantages and disadvantages of thermoset versus thermoplastics in the Section 1.3.3 entitled "Composites" on page 8. However, in the Section 1.3 heading entitled "Plastics Available to Designer" on page 6, Plastics Engineering states:

"However, this does not mean that there is sure to be a plastic with a correct combination of properties for every application. It simply means that the designer must have an awareness of the properties of the range of plastics available and keep an open mind. One of the most common faults in design is to be guided by preconceived notions. For example, an initial commitment to plastics based on irrational approach is itself a serious design fault."

Applicant submits that the Plastics Engineering textbook makes no disclosure regarding the claimed application and does not teach the application of a thermoset polymer composition to a blower housing for a motor driven air handling blower. Further regarding the Plastics

Engineering excerpt, applicant notes that Plastics Engineering excerpt provided to applicant included pages 5, 6, 8 and 9, but did not include page 7. A copy of page 7 is requested inasmuch as this reference is not currently available to applicant.

Applicant agrees that these claims are novel and patentable in view of the individual references, agrees with the Examiner that "Behler in view of Sullivan does not teach if the plastic material is a fiber reinforced thermoset polymer, including a polyester resin", and submits that these references do not teach use of the claimed requirement of "a molded thermoset polymer composition" in a blower housing as required by claim 1.

Applicant further submits that the design of Behler is such that a person of ordinary skill in the art would not normally combine Behler and Sullivan. Behler is formed as a clam shell housing such that Behler is folded over and closed much like a clam shell to form its housing. On the other hand, Sullivan clearly teaches a housing body defined by a pair of housing parts that have 11, 12 which are joined to each other along a radial plane. Applicant submits that a person of ordinary skill in the art would not combine Sullivan and Behler without a reason to do so and that the differing designs of Sullivan and Behler mandate against such a combination.

The Examiner states on page 10 that "the product in Behler would be the same or similar to that claimed; especially since both applicant's product and the prior art product are made of a molded thermoplastic material". The Examiner recognizes that "Behler does not teach if the plastic material is a fiber reinforced thermoset polymer" but then concludes from Plastics Engineering it would be obvious to make the plastic blower housing of Behler from a thermosetting fiber reinforced plastic. Plastics Engineering makes no such teaching however and is merely a discussion of various forms of plastic including contrasting thermosets and thermoplastics. Applicant therefore specifically disagrees with the Examiner's statement that both applicant's product and the prior art product are made of a molded thermoplastic material since Plastics Engineering clearly teaches differences between thermoplastic and thermoset and since there is nothing in Behler, or Sullivan for that matter, to indicate that Behler is formed of a thermoset material.

Applicant further submits that the combination of Behler, Sullivan and Plastics Engineering would not be made absent some sort of suggestion to do so and further submits that the teachings of Plastics Engineering are vague and include no specific teaching that molded thermoset polymer compositions should be applied to Behler and/or Sullivan and the resultant combination modified to result in the claimed invention. In this regard, Plastics Engineering includes specific language teaching away from blind uses of plastics such as the faults of preconceived notions regarding plastics (see paragraph 1.3 of Plastics Engineering). Additionally, Plastics Engineering is specific in its teaching of the application of thermosetting systems to large area relatively low productivity molding, an application which is considerably different than the high volume manufacture of commercial blower housings for a motor driven air handling blower (see third paragraph of Plastics Engineering Section 1.3.3.).

Applicant also notes that the disadvantages of thermoplastics are noted in numbered paragraph 4 and 5 of the application whereas the advantages of the claimed approach are described variously throughout the application.

For all of these reasons, claim 1 is submitted to be novel and patentable in view of the references of record whether taken individually or in combination.

The dependent claims of claim 1, particularly including claims 11 through 13, are submitted to be independently novel and patentable as describing a specific thermal composition not described or suggested by the proposed compilation of Behler, Sullivan and Plastics Engineering. These specific improvements include the fiber reinforcement of claim 11, the polyester resin of claim 12 and the formation by compression molding of claim 13.

Inasmuch as the proposed combination, whether taken individually or in combination does not disclose or suggest these dependent claims, these dependent claims are submitted to have independent novelty and patentability in view of the proposed combination.

Claims 1-5 and 7-13 are therefore submitted to be novel and patentable over the prior art of record.

Rejection of Claims 21-23 Under 35 U.S.C. Section 103(a)

Claims 21-23 stand rejected under 35 U.S.C. Section 103(a) in view of the proposed combination of U.S. Patent 4,865,517 to Behler and U.S. Patent 5,474,422 to Sullivan. This rejection is respectfully traversed for the reason discussed above with regard to the unlikelihood of a person of ordinary skill in the art making the combination as proposed. These arguments are not repeated for the sake of brevity, but applicant submits that claims 21-23 are novel and patentable in view of the proposed combination whether taken individually or in combination.

Rejection of Claim 24 Under 35 U.S.C. Section 103(a)

Claim 24 stands rejected under 35 U.S.C. Section 103(a) in view of the proposed combination of U.S. Patent 4,865,517 to Behler, U.S. Patent 5,474,422 to Sullivan and Plastics Engineering, Third Edition by R. J. Crawford. The rejection of this claim is respectfully traversed on the basis that the cited references, whether taken individually or in combination, do not disclose a compression molded reinforced thermoset composition and do not propose any reason to make the proposed combination. The arguments above with regard to claim 1 are relevant but are not repeated for the sake of brevity. Applicant also notes that this claim requires that the thermoset composition be both reinforced and compression molded and submits that neither Behler nor Sullivan make any disclosures regarding such a composition or manufacture. Applicant further submits that the Plastics Engineering excerpt makes no disclosure or teaching regarding the application of a compression molded reinforced thermoset composition to reclaim the blower housing. Consequently, applicant submits that the proposed combination would not be made and that this claim is novel and patentable in view of the prior art of record whether taken individually or in combination.

Respectfully Submitted,



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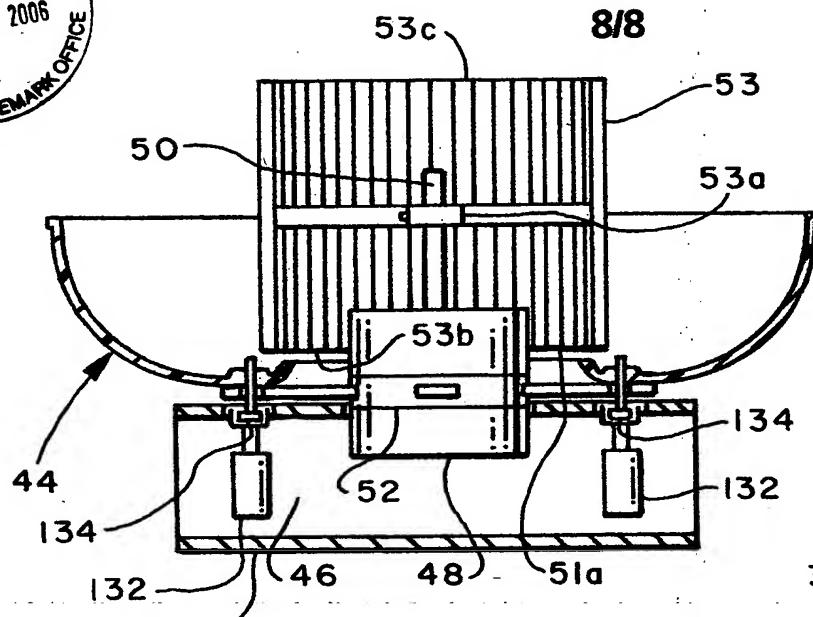


FIG. 19

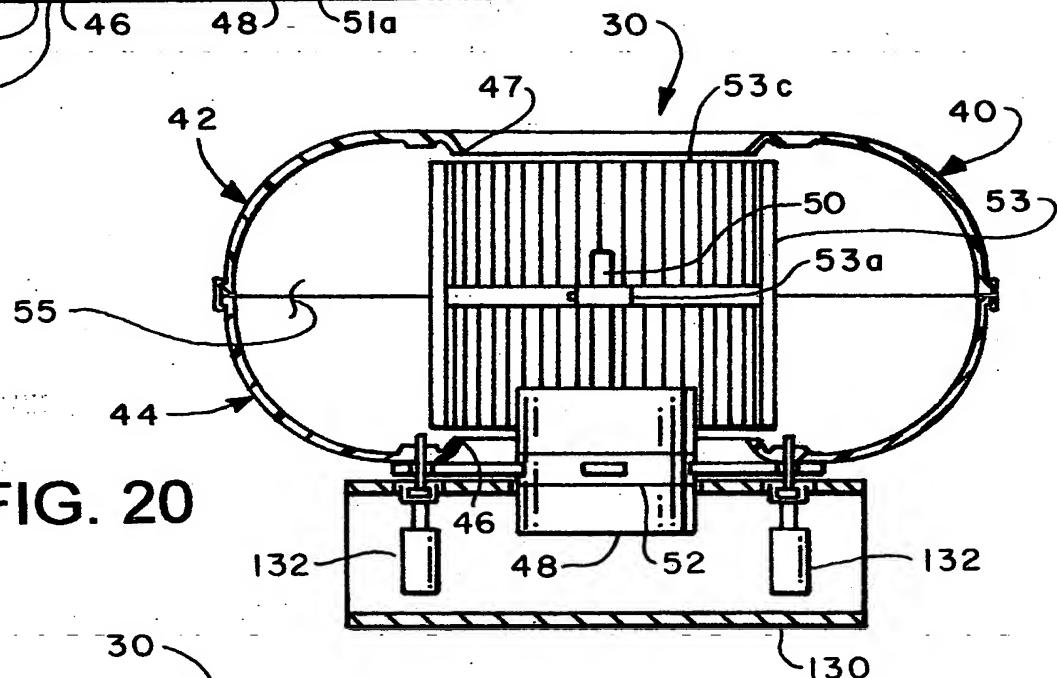


FIG. 20

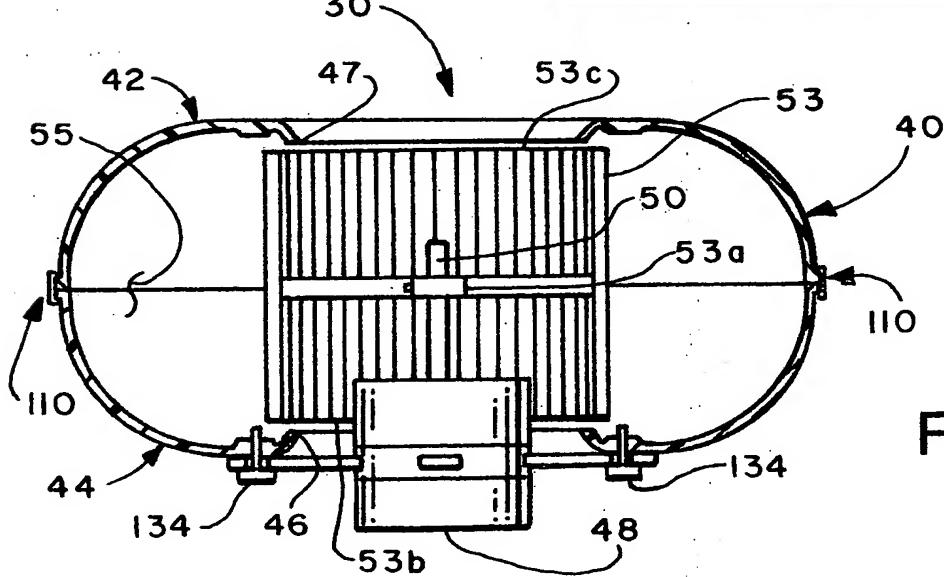


FIG. 21